

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) ~~An optical apparatus comprising, a frequency stabilised linear HeNe gas laser having an Ne content of an Ne²⁰ isotope and an Ne²² isotope in substantially equal proportions, the apparatus in use having optical feedback toward the laser causing, at least 0.1% of the light output of the laser to be returned toward the laser~~ a frequency stabilized linear HeNe gas laser having a resonant cavity, and optical elements, wherein the resonant cavity is filled with a gas including an He content and an Ne content, the Ne content comprising an Ne²⁰ isotope and an Ne²² isotope in substantially equal proportions and wherein the optical elements during operation of the optical apparatus cause at least 0.1% of the light output of the laser to be returned towards the laser.
2. (Canceled)
3. (Currently Amended) ~~An interferometric displacement determination device comprising a frequency stabilised linear HeNe gas laser having an Ne content of an Ne²⁰ isotope and an Ne²² isotope in substantially equal proportions, the apparatus in use having optical feedback toward the laser causing, at least at intervals, at least 0.1% of the light output of the laser to be returned toward the laser, the device being any one of a single beam, a plane mirror, a long range, or an optical fibre type~~ having an optical apparatus comprising, a frequency stabilized linear HeNe gas laser having a resonant cavity, and optical elements, wherein the resonant cavity is filled with a gas including an He content and an Ne content, the Ne content comprising an Ne²⁰ isotope and an Ne²² isotope in substantially equal proportions and wherein the optical elements during operation of the optical apparatus cause at least 0.1% of the light output of the laser to be returned towards the laser, the device being any one of a single beam, a plane mirror, a long range, or an optical fibre type.

4. (Currently Amended) An interferometric displacement determination device as claimed in claim 3 wherein the Ne^{20} and Ne^{22} isotope content is in the ratio of from about 60:40 to about 40:60 respectively.
5. (Currently Amended) An interferometric displacement determination device as claimed in claim 3 wherein the HeNe gas ratio is from about 80:20 to about 90:10 respectively.
6. (Currently Amended) An optical apparatus ~~or interferometric displacement determination device~~ as claimed in claim 1 wherein the laser achieves a frequency stabiliszation below 1×10^{-7} (Frequency noise/Absolute frequency) and the optical feedback is in the range of 0.1% to 10% of the light output of the laser.
7. (Currently Amended) An optical apparatus ~~or interferometric displacement determination device~~ as claimed in claim 1 wherein the apparatus or the device includes an optical fibre element.
8. (Currently Amended) An optical apparatus ~~or interferometric displacement determination device~~ as claimed in claim 6 wherein the method of frequency stabiliszation employed is modal control.
9. (Currently Amended) An optical apparatus ~~or interferometric displacement determination device~~ as claimed in claim 7 wherein the modal control is control of the ratio of the intensities of two laser modes.
10. (New) An interferometric displacement determination device having an optical apparatus comprising, a frequency stabilized linear HeNe gas laser having a resonant cavity, and optical elements, wherein the resonant cavity is filled with a gas including an He content and an Ne content, the Ne content comprising an Ne^{20} isotope and an Ne^{22} isotope in substantially equal proportions and wherein the optical elements during operation of the

optical apparatus cause at least 0.1% of the light output of the laser to be returned towards the laser.

11. (New) A polarization measurement device having an optical apparatus comprising, a frequency stabilized linear HeNe gas laser having a resonant cavity, and optical elements, wherein the resonant cavity is filled with a gas including an He content and an Ne content, the Ne content comprising an Ne^{20} isotope and an Ne^{22} isotope in substantially equal proportions and wherein the optical elements during operation of the optical apparatus cause at least 0.1% of the light output of the laser to be returned towards the laser.

12. (New) A spectroscopic analysis apparatus having an optical apparatus comprising, a frequency stabilized linear HeNe gas laser having a resonant cavity, and optical elements, wherein the resonant cavity is filled with a gas including an He content and an Ne content, the Ne content comprising an Ne^{20} isotope and an Ne^{22} isotope in substantially equal proportions and wherein the optical elements during operation of the optical apparatus cause at least 0.1% of the light output of the laser to be returned towards the laser.

13. (New) A heterodyne frequency measurement device having an optical apparatus comprising, a frequency stabilized linear HeNe gas laser having a resonant cavity, and optical elements, wherein the resonant cavity is filled with a gas including an He content and an Ne content, the Ne content comprising an Ne^{20} isotope and an Ne^{22} isotope in substantially equal proportions and wherein the optical elements during operation of the optical apparatus cause at least 0.1% of the light output of the laser to be returned towards the laser.
